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ABSTRACT

A study was conducted to develop data concerning the reactions of student teachers to contact with urban, black pupils. Subjects were 130 junior year student teachers (all but two of them white) who were assigned by their state college to four elementary schools in a small city school system. A 34-item questionnaire designed to tap attitudes toward teaching in inner-city schools was administered during the first and last week of their 9-week practice teaching period. Data analysis included observation of pre-post changes by grade level taught; covariance analysis of the post data taking grade taught and social class level into account; correlation of pre-post change scores on every item with those on every other item; and an analysis to tease out the significance of student teacher social class background. General findings: Overall significant changes were in attitude toward discipline and control (more difficult than expected); toward teaching in the face of social problems (change toward pessimism); and toward inner-city children (positive change). Teaching experience widened the gap between attitudes of those teaching upper and lower grades. Items on teacher control correlated frequently with other items but not with those related to desire to teach in inner-city schools. Few effects were associated with social class per se, but there was significant interaction of social class with grade taught. (Complete findings are discussed.) (JS)

ED035577

The effect of practice teaching in inner city schools on attitudes toward teaching in inner city schools

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That there is widespread criticism of the adequacy of education methods courses as preparation for teaching in general, and for teaching in inner city schools in particular hardly needs to be documented (Koerner, 1963; Passow, 1963; Passow, Goldberg & Tannenbaum, 1967; Sarason et al, 1962; Stone, 1968). The prescription that our teachers ought to have more liberal arts courses to prepare them better for teaching subject matter (Conant, 1963; Stone, 1968) fails to recognize that any kind of intellectual preparation removed from the actual classroom will prove inadequate in helping the teacher meet the psychological and social demands found there (Sarason et al, 1962; 1966). Even the highly touted MAT programs (Stone, 1968) leave much to be desired in that respect (A. Levine, 1968; Sarason, in press). While the pre-professional courses may be of some help to teachers in learning how to organize a course, and prepare a lesson, new teachers, and student teachers are in agreement (Koerner, 1963) that the relatively few weeks of full time practice teaching have provided their most valuable educational experience, which often is still insufficient, particularly in ghetto schools (Sarason et al, 1966).

Complaints that some teachers in the inner city are strongly prejudiced (Clark, 1965), and the very rapid turnover rate of new teachers, reaching fifty per cent in some city school systems clearly reveals that contact alone is insufficient to ensure positive attitudes toward inner city teaching. It follows that simply exposing student teachers to inner city classrooms as part of their training will also be insufficient.

The present study derives from an initial attempt to modify the student teacher experience in inner city schools to provide more contact with classrooms, and more contact with children (Levine, Dunn and Donlan, 1965; Levine, et al, 1968). We noted that our students who worked with first grade children maintained favorable attitudes, compared with controls who were not in the special program. However, we also noted that our control group had a very high proportion of students who had taught older children.

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We developed the hypothesis that the age of the child taught may well exercise an important effect on the student teacher's attitudes because older children are more difficult to control than younger ones. The purpose of the present study is to determine the effect of the grade taught on student teachers' attitudes toward teaching in inner city schools.

Method

The present study took advantage of a relatively unique field situation in order to develop data about variables influencing attitude change in student teachers following contact with an urban, predominantly black pupil population. Southern Connecticut State College had a long standing contract with the New Haven school system to use four of its elementary schools as laboratory schools for its program of teacher education. The contract preexisted the black migration to northern cities. By the time this study was undertaken, between fifty and seventy per cent of the population of these four schools was black. The cooperating teachers were, for the most part, experienced and capable individuals who had developed their own methods of coping with this situation. With the exception of modest in-service training programs, or courses they had taken, the cooperating teachers had themselves had no special preparation for the situation in which they were working. The city school system was just trying to introduce some changes in curriculum, in methods and in school organization; at the college, new content in education courses were just beginning to appear. Our own project (Levine et al, 1965; 1968) was established on a pilot basis as part of the early effort to orient some portion of the education program toward teaching in inner city schools.

The 157 teaching students who participated in the present study were all juniors, primarily female (88 per cent), under 21 (92 per cent), and almost all were white. The religious distribution followed the distribution for the New Haven area: 61 per cent Catholic, 26 per cent Protestant, 10 per cent Jewish, and a few indicated no religious affiliation. Using Hollingshead's scale (Hollingshead and Redlich (1958), Classes I and II contributed 14 per cent; Class III, 29 per cent; and, Classes IV and V, 57 per cent.

At Southern Connecticut, at that time, almost all junior year student teachers were assigned to these four inner city schools. Students came for a nine week full time practice teaching experience. Their work in the classrooms

was supervised by the cooperating teacher and periodically they were observed by supervisors from the college. Students were not randomly assigned to grade level. A student had some choice about teaching at the upper primary or the lower primary level. There was no statistically significant relationship between social class background, age, or religion and grade taught. Males tended to be concentrated at the upper grade levels, but men taught at all levels. The numbers were too small to permit detailed analysis of this variable, and we hesitated to reduce our numbers at each grade level by eliminating males. If there are complex interactions between sex, grade taught and attitude change, these analyses will not reveal them. Also, because of a variety of possible differences related to non-random assignment of students to grade level, the major analyses were carried out using a covariance method which takes into account the initial level of scores on the attitude scales.

The students practice taught at all levels from pre-school through the sixth grade. Three groupings of approximately equal size were formed: pre-school, kindergarten and first grade (N = 44); second and third grade (N = 56); and fourth, fifth and sixth grades (N = 57).

A 34 item questionnaire designed to tap attitudes toward teaching in inner city schools was administered during the first and last week of the student's nine week practice teaching period. All of the students in the first two cycles of the year were involved. The questionnaire had been constructed for use with teachers (Levine et al, 1968), but as yet we have little data concerning its psychometric properties. (Unpublished validity studies have shown the scales differentiate volunteers for an inner city tutoring program from otherwise comparable non-volunteers. Also, experienced teachers participating in an NDEA summer institute on teaching in the inner city revealed more favorable attitudes than liberal arts college graduates with no inner city experience taking an eight week summer crash program in teaching).

The questionnaires were administered in a group by a college supervisor well known to the students. Students were asked to identify themselves by using their mothers' maiden names. Their anonymity was preserved and we were able to match the pre and post questionnaires.

Two hundred questionnaires were administered in the two cycles of pre testing. We were left with 157 usable questionnaires at the end, the losses being due to absentees, and incomplete or incorrectly completed questionnaires which were unscorable.

Place Table 1 about here

Results

The practice teaching experience has some general effects on attitudes of student teachers. Correlated t tests, which evaluated overall pre-post mean changes, reached significance ($p < .05$) in 12 of the 34 attitude scale items. Seven of these 12 items (5, 14, 17, 22, 29, 31 and 34) have to do with handling behavior problems, and with matters related to discipline and control. In each case the student teachers, irrespective of grade taught, agree that discipline and control is more difficult than they had previously suspected. This finding is very similar to that reported repeatedly with the Minnesota Teacher Attitude Inventory. Teachers become less permissively oriented with increasing experiences in any school.

Three further items (12, 30 and 32) change in the direction of expressing more pessimism generally about the possibility of teaching in the face of the many social problems they see in and around the children. Item 32 changes in the direction of more disagreement with the proposition that children's failure is due to inadequate work by teachers with the children. The inference is that the cause of failure is elsewhere than with the teacher's efforts.

The remaining two items shift in a more positive direction. The student teachers see inner city children as more affectionate after contact than before, (item 27) and they disagree more with the proposition that inner city parents are likely to be against the teacher, after experiences in the inner city school (item 28).

The grade taught during practice teaching has a differential effect on student teacher attitudes. A covariance analysis (done on the post data with the pre data as covariate) provides statistical control of initial differences between the groups teaching in the various grades. Consequently, it permits direct evaluation of any differential effects that the teaching experience has on the attitudes of these groups. The analysis produced significant F ratios for grade taught effects on 14 of the 34 attitude scale items. The meaning of these significant F's can be seen in Table 1, which presents change in attitude scale items as a consequence of grade taught. In each of the 14 items, the direction or amount of change in attitude scale points, from pre practice teaching to post practice teaching, is sharply different between the younger (Kg-1st) and older grades (4-5-6th grades).

Place Table 2 about here

The items appear to fall into three categories.

Four of the items (2, 26, 32, and 33) seem related to viewing the inner city school as a good place to work. On all of these items, those who taught in the lower grades tend to agree more that the city school is a good place to work after experience, while those who practice taught in the upper grades disagree more than they did earlier with this general proposition.

Six of the items (7, 8, 9, 11, 12, 25) seem to deal with pessimistic feelings about children learning, or with the sense of professional competence and satisfaction in working in inner city schools. All six of these items show the same trend. Those who taught children in the lower grades tend to retain, or increase their sense of optimism, satisfaction and hopefulness about teaching the children, while those who taught upper grade children tend to become more pessimistic than before their practice teaching experience.

The remaining four items (14, 22, 29, 31) deal with matters of discipline and control. Although all student teachers tend to have problems in this area, it appears that those who teach in the upper grades have particular trouble.

While not found to be significant in the covariance analysis, items 3, 13, and 28 show this characteristic divergent direction of change for the different grades. These items have to do with feelings about the children's parents. Again, those who practice taught in the lower grades continue to feel the parents are cooperative and interested, while those who taught in the upper grades seem to change more in the direction of disagreeing that parents are cooperative and interested.

The covariance analysis also included social class as a variable. Although there were few effects associated with social class per se, several statistically significant interactions with grade taught were found. These, however, showed no clear patterns.[2]

In an attempt to understand further the experience of the student teachers, pre-post change scores for every item were correlated with pre-post change scores for every other item.[3] Nearly half of the item change scores correlated significantly with change scores on one-third of the other items. Two items (14 and 31), having to do with the teacher's ability to control the children,

showed the greatest number of correlates with other items, confirming that discipline and control are indeed salient issues for student teachers. Those who felt better about the children's respect for authority, or about the readiness with which the children respond to controls, also felt better about many other issues, and the converse was also true.

What is most interesting however, is that none of the changes on the seven items relating to control (5, 11, 12, 14, 24, 29, 31) correlated with changes on item 33, (I would prefer teaching in an inner city school to a suburban school, if I had my choice), despite that fact that each of these control items showed significant correlations with at least 12 of the remaining 32 items.

Changes on item 33 showed correlations with changes on 13 other items. These 13 items seem to break down into three general categories. First, the school situation is viewed as professionally rewarding (2, 6, 20, 30). Secondly, the inner city school situation is viewed as personally gratifying, or at least not too stressful! (items 7, 13, 16, 18, 26). Finally, the children are viewed in a positive light (1, 8, 25, 27). Changes along these dimensions, of professional and personal reward, and views of the children as responsive relate to changes in the attitude toward teaching in the inner city. Changes in attitudes about the difficulty of maintaining discipline do not relate to changes in attitudes about teaching in inner city schools.

Discussion

The nine weeks practice teaching experience had striking effects on student teacher attitudes towards inner city schools. Moreover, the directions of these effects can be related to the usual training which the student receives to prepare him for the teaching role.

It is not surprising that, irrespective of grade taught, attitudes about discipline and control change as a result of the practice teaching experience.

Clinical experience with new teachers, and with student teachers suggests very strongly that student teachers receive very little realistic pre-clinical preparation for what they will face, and the preparation they do receive does not really permit an examination nor an understanding of the important changes in self which take place when the young student encounters teaching responsibilities. There are many unexpressed fantasies about how the student will do all those nice things for children that his teachers never did for him. There is

no realistic pre-clinical preparation for the fact that the only model the teaching student has to fall back upon in moments of stress is the introjected image of teachers past. There is no realistic preparation, nor opportunity afterwards to sort out the feelings when the student teacher finds himself responding in ways that are totally foreign to him and different from anything he ever expected he would experience. Students are not sure of themselves, their preparation is usually insufficient for the situation they encounter, and they suffer from not being able to assess their own values, or the children's need for structure and control, except as they are fortunate to work it out with a responsive master teacher (not all are), or by themselves (Sarason et al, 1966; Levine, et al, 1965; 1968).

Practice teaching in the lower grades tends to create more favorable attitudes towards teaching in inner city schools, while teaching in the upper grades has the opposite effect. To understand this grade effect, one must consider both the different conditions across the grade levels and the factors influencing how teachers feel about these conditions. The correlational analysis of the results suggests that an important one of these factors is a feeling of professional accomplishment. A student teacher who feels he has fulfilled his role as a professional is likely to be satisfied with his teaching experience. One can infer that this is most likely to occur when classroom conditions are conducive to his idea of professional accomplishment. Consequently, the grade effect with respect to favorable attitudes towards teaching in inner city schools can be related to how teachers are taught to perceive their role, as this affects what classroom conditions they will find satisfying.

Professional methods courses tend to define teaching as the proper preparation and presentation of subject matter for the child to absorb. Student teachers are taught in educational methods courses that: if they prepare their materials properly, then the children will learn. Being able to impart subject matter is central to the student teacher's view of the self as a competent professional person. One may or may not wish to argue with that definition, but it is clear that imparting subject matter means imparting it to a receptive child. If one does not have a child who appears receptive, then one cannot teach. If one cannot teach, there is no way of validating one's professional competence. A situation in which children are viewed as unreceptive cannot be professionally gratifying.

A second issue is somewhat more subtle. Teachers teach the curriculum and texts they are told to teach, by methods they are told are proper. It is our impression, based on observation and discussion that innovation and experimentation in teaching approaches are not encouraged within most schools, nor does the situation permit much attempt at innovation, although many inner city school situations cry for far reaching changes. Given this limitation, that the teaching method is viewed as tried and true, and not to be tampered with, then if the child is not receptive, there must be something wrong with him. If there is something wrong with him, then he'll never learn. If he'll never learn, there is no point in trying to teach him, particularly if he is older.

Student teachers in the lower grades find that the children are more receptive to learning than expected, while student teachers in the upper grades find the opposite. Receptive children are an important condition helping to produce the satisfaction which teachers of the younger grades experience. Receptive children enable the teacher both to validate himself as a professional and to feel that his efforts are worthwhile, as the children respond. Likewise, unreceptive children are an important reason for the dissatisfaction which teachers in the upper grades experience. Children who are seemingly unable or unwilling to learn give the teacher no opportunity to prove his ability in the teaching role. Also, such children, given the assumption that the fault lies in them and not in how they are taught, do not make the teacher feel his efforts are worthwhile.

It is our impression that much of the formation of the professional identity of the teacher takes place during teacher education, or during the first year of teaching, and that if the functions which are incorporated within that sense of identity are narrowly defined, then the teacher will work in narrowly defined ways, and find satisfaction in narrowly defined ways. If teaching is defined exclusively as the proper preparation and presentation of material, and the process of becoming a teacher does not permit any focus upon the emotional, and the irrational in the process of becoming, then we shall lose human capacity in our teachers. In small ways we have tried to intervene in the process through discussion groups with new teachers (Sarason et al, 1966) and through modifying

the student teacher experience to include a prolonged experience with a child in a one to one tutoring relationship (Levine et al, 1965, 1968). However, there is much more to be learned about how one can work to enlarge the capacity of teachers to understand and to appreciate themselves and their children, and at the same time, to develop our own understanding of the critical interaction between an individual and the social settings in which he lives his life.

References

Clark, K. B. Dark ghetto. Dilemmas of social power. New York: Harper & Row, 1965.

Conant, J. B. The education of American teachers. New York: McGraw Hill, 1963.

Hollingshead, A. B., & Redlich, F. C. Social class and mental illness. New York: John Wiley, 1958.

Koerner, J. D. The miseducation of American teachers. Baltimore: Penguin Books, 1963.

Levine, A. Marital and occupational plans of women in professional schools: Law, medicine, nursing, teaching. Unpublished doctoral dissertation, Department of Sociology, Yale University, 1968.

Levine, M., Dunn, F., & Dolan, K. The use of student teachers in a preventive tutoring program. Teacher Education Quarterly, 1965, 23, 13-18.

Levine, M., Dunn, F., Brochinsky, S., Bradley, J., & Donlan, K. Project Scranton: Service and training in the clinical experience of student teachers. Progress Report. New Haven, Connecticut: Psycho-Educational Clinic, Yale University, 1968 (mimeographed).

Passow, A. H. (Ed.). Education in depressed areas. New York: Bureau of Publications, Teachers College, Columbia University, 1963.

Passow, A. H., Goldberg, M., & Tannenbaum, A. J. (Eds.). Education of the disadvantaged. New York: Holt, Rinehart and Winston, 1967.

Sarason, S. B. The culture of the school and the process of change. Boston: Allyn and Bacon, in press.

Sarason, S. B., Davidson, K. & Blatt, B. The preparation of teachers. An unstudied problem in education. New York: John Wiley, 1962.

Sarason, S. B., Levine, M., Goldenberg, I. I., Cherlin, D. L., & Bennett, E. M. Psychology in community settings. New York: John Wiley, 1966.

Stone, J. C. Breakthrough in teacher education. San Francisco: Jossey-Bass, 1968.

Footnotes

[1]We wish to express our indebtedness to S. B. Sarason and his colleagues at the Yale Psycho-Educational Clinic where this work was initiated. I am also indebted to my wife, Adeline Levine, Assistant Professor of Sociology, SUNY-at Buffalo, for her critical reading of the manuscript and for her suggestions. Freda Dunn of the New Haven Public Schools, and Dr. Kay Donlan of Southern Connecticut State College were most cooperative in helping us to obtain the data, and we are pleased to acknowledge their assistance.

[2]The general impression from the data was that student teachers who come from working class backgrounds (Hollingshead Classes IV and V) appear to start out with less favorable views of inner city schools and children, and after experience, at the lower grade levels, seem to develop more favorable attitudes. Student teachers coming from middle and upper middle class backgrounds (Hollingshead Classes I, II and III) tend to start out more favorably inclined, and seem to become more disillusioned particularly after practice teaching with younger children; less change is apparent after practice teaching with older children. The working class student teachers tend not to change their views after teaching older inner city children.

[3]The correlation matrix of change scores is not presented because of its prohibitive size. The fact that none of its correlations were very high, militated against any attempt at a factor analysis.

Table 1

The following statements represent a sampling of observations and opinions about children, teaching conditions, problems and solutions to problems which have been expressed in various publications.

In these statements, the term inner city refers to schools or neighborhoods which are composed of Negro or Puerto Rican families and sometimes whites, who have low incomes, or who are welfare clients. Some refer to children from these families as culturally deprived or disadvantaged.

There are no correct answers to these problems but in view of your own experiences, reading, thinking and conversations with others, how do you feel about the issues that are stated?

If you strongly agree with the statement, you would write in "1".
If you agree with the statement, you would write in "2".
If you tend to agree with the statement, you would write in "3".
If you tend to disagree with the statement, you would write in "4".
If you disagree with the statement, you would write in "5".
If you strongly disagree with the statement, you would write in "6".

Please express your frank opinion or reaction to each statement.

Consider each statement separately.

Do not hesitate to express your opinions in strong terms, if that's the way you feel about the statement.

1. Children in inner city schools will be slow learners no matter how they are taught ____
2. The inner city school is the best place to work because of all the educational experimentation which is taking place. ____
3. Parents of children in inner city schools are really interested in how their children do at school. ____
4. Children in inner city schools are beset with so many other problems that most cannot be expected to work well in school. ____
5. A teacher must <u>make</u> children in inner city schools work or obey. ____
6. A teacher really has more chance to be creative and flexible in inner city school than in a suburban school. ____
7. The effort it takes to reach an inner city child is too great for the return you get. ____

8. Children in schools in inner city neighborhoods show great interest in learning. ____
9. Teachers can teach a great deal to inner city children who don't have proper preparation for school at home. ____
10. Differences between children in inner city schools and other schools in educational achievement can be accounted for almost entirely by heredity. ____
11. Teachers are no more than baby sitters in most inner city schools. ____
12. Children are exposed to so much violence and immorality in the neighborhood they do not come to school in a receptive frame of mind. ____
13. Parents of children in inner city schools appreciate it when a teacher works unusually hard with a child. ____
14. Children in inner city schools respect adult authority. ____
15. It is discouraging because the school is asked to do too much in educating children in the inner city. ____
16. The rewards of teaching a child in an inner city school more than compensate for the frustrations. ____
17. If a teacher isn't right on top of an inner city class every minute the children will get out of control. ____
18. It doesn't pay to work in an inner city school because no one really cares for the children. ____
19. Children in inner city schools are so poorly endowed intellectually that they should be given more arts and crafts and less academic work. ____
20. Most teachers who work in inner city schools are good teachers. ____
21. Environmental factors are primarily responsible for the difficulties inner city children experience in doing well in school. ____
22. Children in inner city schools are very open and spontaneous. ____
23. Negro children will not do well in school as long as many Negroes are not in responsible teaching, supervisory and administrative positions. ____

24. A teacher cannot count on cooperation from the home when an inner city school child is having a problem in class. ____
25. Children in inner city schools care if they do well or not. ____
26. The frustration and strain of working in an inner city school is more than I can take. ____
27. Most inner city children are so affectionate it makes it worthwhile to work with them. ____
28. Parents of children in inner city schools are likely to be against the teacher. ____
29. Children in inner city schools are loud and raucous. ____
30. Because of all the problems, teachers cannot be expected to teach as much academic work to children in inner city schools as in other parts of the city. ____
31. Children in inner city schools are not very hard to control. ____
32. Inner city school children would learn better if more of their teachers worked harder with them. ____
33. I would prefer working in an inner city school to a suburban school, if I had my choice. ____
34. Teachers would do a much better job with the others if they would have more special classes for the disturbed and the slow learners in inner city schools. ____

TABLE 2

Changes in Attitude Scale Items as a Consequence of Grade Taught

Item No.	Grade Taught	N	Mean Pre	± Change Score
1.	Kg - 1st	44	4.7	-0.1
	2nd-3rd	56	4.8	-0.2
	4th-5th-6th	57	4.7	0.0
2.[d]	Kg - 1st	44	3.9	+0.2
	2nd-3rd	56	3.7	-0.3
	4th-5th-6th	57	4.2	-0.3
3.	Kg - 1st	44	4.1	+0.4
	2nd-3rd	56	4.1	+0.2
	4th-5th-6th	57	4.1	-0.2
4.	Kg - 1st	44	3.8	+0.1
	2nd-3rd	56	3.4	-0.1
	4th-5th-6th	57	3.4	0.0
5.[c]	Kg - 1st	44	3.7	+0.6
	2nd-3rd	56	4.0	+0.7
	4th-5th-6th	57	3.9	+0.6
6.	Kg - 1st	44	4.1	+0.1
	2nd-3rd	56	3.9	0.0
	4th-5th-6th	57	3.9	-0.1
7.[a, d]	Kg - 1st	44	5.3	-0.1
	2nd-3rd	56	5.3	+0.1
	4th-5th-6th	56	5.4	+0.6
8.[d]	Kg - 1st	44	3.8	+0.4
	2nd-3rd	56	3.6	-0.4
	4th-5th-6th	57	4.1	-0.3
9.[c, d]	Kg - 1st	44	2.9	0.0
	2nd-3rd	56	3.1	-0.5
	4th-5th-6th	57	3.3	-0.6
10.	Kg - 1st	44	5.3	+0.1
	2nd-3rd	56	5.2	-0.0
	4th-5th-6th	57	5.1	+0.1

(Table 2 continued)

Item No.	Grade Taught	N	Mean Pre	± Change Score
11.[d]	Kg - 1st	44	5.2	-0.1
	2nd-3rd	56	4.9	-0.2
	4th-5th-6th	57	5.1	+0.5
12.[c, d]	Kg - 1st	44	3.9	+0.2
	2nd-3rd	56	3.8	+0.2
	4th-5th-6th	57	3.6	+0.6
13.[d]	Kg - 1st	44	3.2	-0.1
	2nd-3rd	56	3.4	+0.1
	4th-5th-6th	57	3.4	+0.2
14.[c, d]	Kg - 1st	44	3.8	-0.2
	2nd-3rd	56	4.0	-0.4
	4th-5th-6th	57	4.0	-0.5
15.	Kg - 1st	44	4.5	+0.2
	2nd-3rd	56	4.2	+0.1
	4th-5th-6th	57	4.1	+0.2
16.	Kg - 1st	44	2.6	+0.2
	2nd-3rd	56	2.4	-0.2
	4th-5th-6th	57	2.8	0.0
17.[c]	Kg - 1st	44	3.8	+0.6
	2nd-3rd	56	3.4	+0.6
	4th-5th-6th	57	3.1	+0.7
18.	Kg - 1st	44	5.2	+0.1
	2nd-3rd	56	5.1	0.0
	4th-5th-6th	57	5.1	+0.3
19.	Kg - 1st	44	5.3	+0.4
	2nd-3rd	56	5.2	0.0
	4th-5th-6th	57	5.0	+0.2
20.	Kg - 1st	44	3.0	0.0
	2nd-3rd	56	2.9	0.0
	4th-5th-6th	57	3.1	0.0

(Table 2 continued)

Item No.	Grade Taught	N	Mean Pre	± Change Score
21.	Kg - 1st	44	2.0	-0.3
	2nd-3rd	56	2.1	-0.2
	4th-5th-6th	57	2.0	+0.1
22.[b]	Kg - 1st	44	3.1	+0.5
	2nd-3rd	56	3.3	+0.3
	4th-5th-6th	57	3.4	+0.4
23.	Kg - 1st	44	4.9	0.0
	2nd-3rd	56	4.8	0.0
	4th-5th-6th	57	4.6	-0.1
24.	Kg - 1st	44	3.4	-0.3
	2nd-3rd	56	3.6	-0.2
	4th-5th-6th	57	3.6	0.0
25.[d]	Kg - 1st	44	3.0	+0.5
	2nd-3rd	56	2.9	-0.1
	4th-5th-6th	57	3.2	-0.3
26.[d]	Kg - 1st	44	4.7	-0.4
	2nd-3rd	56	4.9	+0.3
	4th-5th-6th	57	4.4	+0.3
27.[c, d]	Kg - 1st	44	3.2	+0.7
	2nd-3rd	56	3.2	+0.4
	4th-5th-6th	57	3.5	+0.2
28.[c]	Kg - 1st	44	3.7	-0.5
	2nd-3rd	56	3.5	-0.8
	4th-5th-6th	57	3.7	-0.1
29.[c, d]	Kg - 1st	44	3.7	+0.5
	2nd-3rd	56	3.5	+0.3
	4th-5th-6th	57	3.6	+1.0
30.[a]	Kg - 1st	44	3.8	+0.3
	2nd-3rd	56	3.7	+0.3
	4th-5th-6th	57	3.5	+0.5

(Table 2 continued)

Item No.	Grade Taught	N	Mean Pre	± Change Score
31.[c]	Kg - 1st	44	4.3	0.0
	2nd-3rd	56	4.0	-1.0
	4th-5th-6th	57	4.5	-0.4
32.[c, d]	Kg - 1st	44	3.2	-0.2
	2nd-3rd	56	3.3	-0.7
	4th-5th-6th	57	3.3	-0.6
33.[d]	Kg - 1st	44	3.5	+0.3
	2nd-3rd	56	3.9	-0.1
	4th-5th-6th	57	4.1	-0.1
34.[c]	Kg - 1st	44	2.3	+0.3
	2nd-3rd	56	2.6	+1.0
	4th-5th-6th	57	2.1	+0.5

[a]Overall mean difference pre-post significant at $p = .05$ or less

[b]Overall mean difference pre-post significant at $p = .01$ or less

[c]Overall mean difference pre-post significant at $p = .001$ or less

[d]Items significant for post practice teaching grade effects, at $p < .05$, holding constant pre-scores by covariance-analysis.

±Change Score = Pre Score - Post Score

positive change score means change in direction of agreement with statement